In the Matter of	)	MB Docket No. 03-185
Rules for Digital Translators	)	

Comments of: Wyoming Public Television; by Bob Connelly, Interim Chief Engineer

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After participating in extensive test conducted by Darwin Hillberry, President, Riverton Fremont TV Club, on existing and new translators (the results of which are included as exhibits on comments filed by Mr. Hillberry) we make the following comments in support of Mr. Hillberry's filing.

1. Wyoming Public Television provides Public Television Service to residents of the ninth largest state in land area and the least populated state in the nation. It accomplishes this task with one full power station and numerous translators. Some of the translators are owned by the licensee, Central Wyoming College, but many are owned and operated by either county governments or rural television associations. . Mr Hillberry's research has shown that many existing translators can be used with very little modification to translate digital television signals as well A whole sale scrapping of existing translators and a requirement to purchase new digital translators would work an undue financial hardship on the licensee and other entities which carry the Public Television service We therefore urge the Commission to accept Mr. Hillberry's effort to allow existing analog transmitters to be used in a digital translator service under the conditions stated in his filed comments.

2. We concur with the emission masks and D/U interference ratios proposed in the paper by Gary Sprignoli of Zenith. Should a new station not have any adjacent channels, the simple mask could be used with the stipulation on the license that when an adjacent channel comes into the coverage contour, the operator would have to go to the more stringent mask.

3. Type certification should be made on the final amplifier and mask by the translator manufacturers, as the current draw and mask characteristics determine most of the out of band emissions that could cause interference.

4. We support an initial filing window for new digital stations restricted to those licensees which currently operate analog translator stations on a one for one basis. The new DTV station should have to maintain the same coverage area as its analog counterpart. The new station would not be allowed to file for an increase in power until after the transition is completed. At the end of the transition, the licensee would be required to choose which channel it desired to retain as its digital channel and return the other channel.

After the limited window, only digital applications could be filed. There should be a freeze on analog translators with the exception of those areas defined in the National Translator Association Rural Translator Request for Rule Making.

5. OTHER ISSUES

5.1
FCC 12: You asked for comments on the definition of a DTV Broadcast Translator. The translator should be a station that retransmits the original signal of a DTV Broadcast Station for reception by the general public. The translator should not alter the content or format of the primary Broadcast Station except for the 30 seconds per hour for local public service announcements or emergency warnings.

5.2
FCC 13: You asked for comments on a rule for down converting a DTV signal to analog format. This should come under the rules for analog translators. In many locations, DTV signals converted to analog would significantly improve the signal provided to analog viewers . This should be allowed until the end of the transition.

5.3
FCC 14: You asked for comments on the use of heterodyne and regenerative translators. There is a need for both types and the decision should be left to the operators. Heterodyne translators work well for single hop systems and are less costly then regenerative translators. Most existing analog translators are capable of retransmitting a DTV signal.

5.4
FCC 15: You asked for comments on local signal insertion. The translator operator should be allowed to insert up to 30 seconds per hour.

5.5
FCC 16: You asked for comments on signal alterations. The DTV translator should not alter the Broadcast stations signal in any way other than frequency and amplitude.

5.6
FCC 20: You asked for comments on the definition of LPTV and Translator. Any transmitter that originates programming for more than 30 seconds per hour should be defined as a LPTV station

5.7
FCC 57: You state that all new applications for major change or new applications should be required to operate with a frequency offset. Many translators in the field will not meet this and could not be converted. This would cause an unneeded financial burden for small translator operators.

5.8
FCC 62,63,64,65,66 and 67. Out of channel emission limits should use the masks based on Sprignolis paper as outlined in FCC 65 with the exception of the mask for grandfathered translators. The mask for grandfathered translators uses the same 3 pole filter as used in the "simple" mask, only the out of band emissions are different and it is calculated differently:

0 to 6 MHz = A(dB)=40.6 + (Δf X 3.33)
6 to 7.5 MHz = A (dB)= 60.6 + ((Δf –6) X 6.37)

All frequencies greater than 7.5 MHz need to be down greater than 70 dB
This would require 3 masks: 1 grandfathered, 1 simple, 1 stringent.

5.9
FCC 69 & 70: The use of multiple masks should be based on the adjacent channels and interference tables. The 3 pole filter would be the minimum mask required. If there is an adjacent channel, the operator would have to use a more stringent mask, this should apply to all stations. Most existing heterodyne translators will have out of band splatter between 30 and 35 dB below the flat top of the signal, using the same 3 pole filter. The out of band splatter is caused by the power output amps and IF amps. The IF filters in the heterodyne translators are not as sharp as the saw filters used in the regenerator or processors. The amps also amplify some noise adjacent to the DTV signal. The filters do not change this level, so, for existing translators the out of band splatter mask should not be as tight. . The translator should have a margin of not less than 30 dB from the top of the signal to where the shoulders fall out of the 6 MHz band. Existiing translator licensees and CP holders should be Grandfathered from analog to Digital TV. If an adjacent channel is present, the operator would need a digital processor with a saw filter or a regenerative translator with the 5 or 6 pole filter to meet the more stringent mask. Some manufacturers did not use band pass filters (EMCEE, Acrodyne), the used notch filters. These translators would be required to use a band pass mask filter.

Respectfully Submitted,
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Wyoming Public Television.